

Application No.: 10/668,736

Case No.: 58725US002

AMENDMENT TO THE SPECIFICATION:

On page 15, please replace the previously amended paragraph that starts on line 28 with the following amended paragraph:

One method to make the abrasive article of the invention illustrated in FIG. 1 is illustrated in FIG. 8. Backing 841 leaves an unwind station 842 and at the same time the production tool 846 leaves an unwind station 845. Production tool 846 is coated with slurry by means of coating station 844. It is possible to heat the slurry and/or subject the slurry to ultrasonics prior to coating to lower the viscosity. The coating station can be any conventional coating means such as drop die coater, knife coater, curtain coater, vacuum die coater or a die coater. During coating the formation of air bubbles should be minimized. The preferred coating technique is a vacuum fluid bearing die, such as disclosed in U.S. Pat. Nos. 3,594,865, 4,959,265, and 5,077,870, all incorporated herein by reference. After the production tool is coated, the backing and the slurry are brought into contact by any means such that the slurry wets the front surface of the backing. In FIG. 8, the slurry is brought into contact with the backing by means of contact nip roll 847. Next, contact nip roll 847 also forces the resulting construction against support drum 843. A source of energy 848 (preferably a source of visible light) transmits a sufficient amount of energy into the slurry to at least partially cure the binder precursor. The term partial cure is meant that the binder precursor is polymerized to such a state that the slurry does not flow from an inverted test tube. The binder precursor can be fully cured once it is removed from the production tool by any energy source. Following this, the production tool is rewound on mandrel 849 so that the production tool can be reused again. Optionally, the production tool may be removed from the binder precursor prior to any curing of the precursor at all. After removal, the precursor may be cured, and the production tool may be rewound on mandrel 849 for reuse. Additionally, abrasive article 820 is wound on mandrel 821. If the binder precursor is not fully cured, the binder precursor can then be fully cured by either time and/or exposure to an energy source. Additional steps to make abrasive articles according to this first method are further described in U.S. Pat. No. 5,152,917 and U.S. Ser. No. 08/004,929, filed Jan.

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14, 1993, both incorporated herein by reference. Randomly shaped abrasives composites may be made by the tooling and procedures described in U.S. Pat. No. 6,076,248, described above.

On page 23, please replace the previously amended paragraph that starts on line 2 with the following amended paragraph:

Referring to FIG. 3, an abrasive article 300 according to the present disclosure was made. The article 300 included an array 310 of features 346, 356, 376 arranged on a backing material (not shown). The features were arranged so that the features were offset. Each feature had a height at its vertex most distally located from the backing of about 30 mils (1 mil equals 0.001 inch). Various base sizes were used, including features 356 having a base 20 by 20 miles (such as defined by sidewalls 351, 352, 353, 354 and vertex 355), features 376 having a base 20 by 30 mils (such as defined by sidewalls 371, 372, 373, 374), and features 346 having a base 30 by 30 mils (such as defined by sidewalls 341, 342, 343, 344 and vertex 345). Each feature 346, 356, 376 was included a body defined by parabolic sections.